



PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Hannigan et al.

Application No. 10/684,213

Filed: October 10, 2003

For: PERCEPTUAL MODELING OF  
MEDIA SIGNALS BASED ON  
LOCAL CONTRAST AND  
DIRECTIONAL EDGES

Examiner: A. Tabatabai

Date: January 14, 2005

Art Unit 2625

Conf. No.: 8680

**CERTIFICATE OF MAILING**

I hereby certify that this paper and the documents referred to as being attached or enclosed herewith are being deposited with the United States Postal Service on January 14, 2005, as First Class Mail in an envelope addressed to: MAIL STOP RCE, COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450.

  
\_\_\_\_\_  
Steven W. Stewart  
Attorney for Applicant

**INFORMATION DISCLOSURE STATEMENT**

MAIL STOP RCE  
COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, VA 22313-1450

Applicants submit herewith information of which they are aware, and which they believe may be material to the examination of the application and in respect of which there may be a duty to disclose in accordance with 37 C.F.R. § 1.56. The information is listed on the attached Form PTO-1449.

The attached Form PTO-1449 lists information previously cited in U.S. pat. nos. 6,631,198 (filed as appl. no. 09/596,658), and/or 6,633,654 (filed as appl. no. 09/737,609). Applicant relies on, *inter alia*, these applications to establish an earlier effective filing date of this application under 35 U.S.C. § 120. Consequently, and pursuant to 37 C.F.R. § 1.98(d), applicant has listed this information without supplying copies of the information itself. Copies can again be provided, however, if needed. Additional information is also cited. A copy of the newly-cited Kim publication entitled "Texture Classification..." is enclosed.

The submission of information on the attached Form PTO-1449 is not intended as an admission that any such information constitutes prior art against the claims of the application under examination. Applicants do not waive any right to take any appropriate action to antedate or otherwise remove any information from the attached Form PTO-1449.

No fee is required since this document is being submitted with a Request for Continued Examination.

If a first Office action on the merits was mailed prior to the mailing of this Information Disclosure Statement, please charge to Deposit Account No. 50-1071 any fees that may be required for considering this Information Disclosure Statement under 37 C.F.R. § 1.17(p).

Date: January 14, 2005

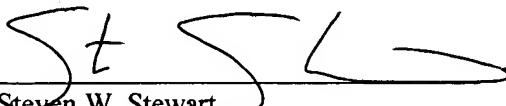
Respectfully submitted,

DIGIMARC CORPORATION

Customer Number 23735

Phone: 503-469-4800

FAX: 503-469-4777

By   
\_\_\_\_\_  
Steven W. Stewart  
Registration No. 45,133



<b>INFORMATION DISCLOSURE STATEMENT</b>	Docket: P0870	Ser. No. 10/684,213
	Applicant: Hannigan et al.	
	Filed: October 10, 2003	Group: 2625

US Patent Documents				
Ex'r Initial	Number	Date	Inventor	Class
	5568570	Oct., 1996	Rabbani.	
	5636292	Jun., 1997	Rhoads.	
	5719966	Feb., 1998	Brill et al.	
	5721788	Feb., 1998	Powell et al.	
	5721805	Feb., 1998	Cook et al.	
	5721809	Feb., 1998	Park.	
	5721818	Feb., 1998	Hanif et al.	
	5721836	Feb., 1998	Scharnberg et al.	
	5721838	Feb., 1998	Takahashi et al.	
	5848155	Dec., 1998	Cox.	
	5859920	Jan., 1999	Daly et al.	
	5862260	Jan., 1999	Rhoads.	
	5901178	May., 1999	Lee et al.	
	5905819	May., 1999	Daly	
	5915027	Jun., 1999	Cox et al.	
	6031914	Feb., 2000	Tewfik et al.	
	6061793	May., 2000	Tewfik et al.	
	6094228	Jul., 2000	Chiardullo et al.	
	6181802	Jan., 2001	Todd	
	6185312	Feb., 2001	Nakamura et al.	
	6222932	Apr., 2001	Rao et al.	
	6226387	May, 2001	Tewfik et al.	
	6233347	May., 2001	Chen et al.	
	6266387	May., 2001	Tewfik.	
	6246777	Jun., 2001	Agarwal et al.	
	6249870	Jun., 2001	Kobayashi et al.	
	6282299	Aug., 2001	Tewfik et al.	
	6282300	Aug., 2001	Bloom et al.	
	6314192	Nov., 2001	Chen et al.	
	6385329	May, 2002	Sharma et al.	
	6400827	Jun., 2002	Rhoads.	
	6442284	Aug., 2002	Gustafson et al.	
	6614914	Sep., 2003	Rhoads et al.	
	6661905	Dec., 2003	Chupp et al.	
	6631198	Oct., 2003	Hannigan et al.	
	6633654	Oct., 2003	Hannigan et al.	
	6707930	Mar., 2004	Kalker et al.	

Examiner Signature:	Date Considered:
*Examiner: Initial if considered, whether or not in conformance with MPEP 609; draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.	


**INFORMATION  
DISCLOSURE  
STATEMENT**

Docket: P0870	Ser. No. 10/684,213
Applicant: Hannigan et al.	
Filed: October 10, 2003	Group: 2625

2001/0016049	Aug., 2001	Nguyen.	
2001/0028715	Oct., 2001	Watanabe.	
2001/0030759	Oct., 2001	Hayashi et al.	
2001/0030761	Oct., 2001	Ideyama.	
2001/0049788	Dec., 2001	Shur.	
2002/0013681	Jan., 2002	Oostveen et al.	
2003/0039376	Feb., 2003	Stach	
2002/0057823	May., 2002	Sharma et al.	
2003/0068068	Apr., 2003	Kim et al.	
60/286,239	4/24/01	Kim	

**Foreign Patent Documents**

Ex'r Initial	Number	Date	Country	Class
	1120741	Aug., 2001	EP.	
	1132895	Sep., 2001	EP.	
	2358999	Aug., 2001	GB.	
	WO96/25005	Aug., 1996	WO.	
	WO96/26494	Aug., 1996	WO.	
	WO98/37641	Aug., 1998	WO.	
	WO02/13138	Feb., 2002	WO.	

**Other References**

Ex'r Initial	Cite
	Autrusseau et al., "A Psychovisual Approach for Watermarking", Proceedings of SPIE vol. 4314, 2001, pp. 495-504.
	Bartens, "Contrast Sensitivity of the Human Eye and It's Effects on Image Quality", pp. 147-151, SPIE Press, 1999.
	Bender, "Applications for Data Hiding," IBM Systems Journal, vol. 39, Nos. 3&4, 2000, pp. 547-568.
	Review of John Canny's "A Computational Approach to Edge Detection", IEEE Trans. Pattern Analyses and Machine Intelligence, pp. 679-698, 1986.
	Cox et al., "Secure Spread Spectrum Watermarking for Images, Audio and Video," Proc. Int. Conf. on Image Processing, Sep. 16-19, 1996, Part vol. 3, pp. 243-6.
	Cox, et al., "A Review of Watermarking and the Importance of Perceptual Modeling", copy to appear in the Proc. Of Electronic Imaging '97, Feb. 1997, 8 pages.
	Cox, et al., "Using Perceptual Models", Chapter 7 of Digital Watermarking, 2002, pp. 201-240.
	Delaigle, et al., "Watermarking Algorithm Based on a Human Visual Model", Signal Processing, Oct. 1998, 23 pages.
	Delaigle, et al., "Watermarking Algorithm Based on a Human Visual Model", Signal Processing, Oct. 1998, 23 pages.
	De Rosa, et al., "Watermark Capacity Measure Incorporating a Model of the Human Visual

Examiner Signature:	Date Considered:
---------------------	------------------

\*Examiner: Initial if considered, whether or not in conformance with MPEP 609; draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.



<b>INFORMATION DISCLOSURE STATEMENT</b>	Docket: P0870	Ser. No. 10/684,213
	Applicant: Hannigan et al.	
	Filed: October 10, 2003	Group: 2625

**\*Examiner:** Initial if considered, whether or not in conformance with MPEP 609; draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.